

IN THE SPECIFICATION:

Page 7

Before the title "DESCRIPTION OF THE EMBODIMENTS" add the following:

Figs. 3A-3C are flow diagrams illustrating embodiments of the recording method of the present invention.

Fig. 4 is a flow diagram illustrating the reproducing method of the present invention.

Page 21

Before the second paragraph insert the following:

Figs. 3A-3C illustrate embodiments of the method of recording according to the present invention as discussed above. Thus, as illustrated by Fig. 3A, the method of the present invention includes a step 201 of generating a recording clock from a signal obtained by detecting the wobble or deformation of the recording track. Next the system detects pre-recorded information of control data on the recording medium as indicated by step 203. Then as shown in step 205, a conversion multiplying factor is set between a period of the signal obtained by detecting said wobble or deformation and a period of the recording clock, based on said detected pre-recorded information. Finally, in step 206 the recording marks are formed in synchronism the recording clock.

In Fig. 3B additional steps are included. These include step 207 of making quantities of user data recorded per single sector equal irrespective of a value of the conversion multiplying factor used when generating the recording clock from the signal obtained by detecting said wobble or deformation, and step 208 in which a length of a buffer area preceding a head of a user data portion or a buffer area following a terminus portion of the user data portion is made longer as the conversion multiplying factor becomes higher.

Furthermore, as illustrated in Fig. 3C additional steps can be performed. For example, in step 209 a physical length ranging from a head of the buffer area preceding the user data portion to a terminus portion of the buffer area following the user data portion is kept at nearly the same length independently of the conversion multiplying factor by changing the number of channel bits. In addition to this step, step 210 may also be performed. In accordance with step 210, recording is conducted over a length of the buffer area preceding the user data portion and/or a

length of the buffer area following the user data portion in a control data zone of the recording medium beforehand.

Fig. 4 illustrates the method of reproducing according to the present invention. At step 211, a recording track on a recording medium is irradiated with an energy beam. Then as indicated by step 213, the intensity of the energy beam reflected or transmitted by the recording medium out of the energy beam with which said recording medium is irradiated is detected. This is followed step 215 of reproducing information recorded on said recording medium, from the intensity signal of the reflected or transmitted energy beam, with the recording track being wobbling or deforming with a predetermined period. As indicated by step 217, a reproducing clock is generated from a signal obtained by detecting the wobble or deformation of the recording track. Using this reproducing clock as a reference, in step 219 the reproduced data is discriminated. In step 221, pre-recorded information of control data on the recording medium is detected. And, as indicated by step 223, a conversion multiplying factor is set between a period of the signal obtained by detecting the wobble or deformation and a period of the reproducing clock, based on the pre-recorded information of control data on the recording medium.